

**CLAIMS**

1. A VPN gateway for interfacing two or more VPNs to one or more external networks, the external network or networks having different addressing schemes to those of the VPNs, the VPN gateway having a NAT shared by the VPNs for  
5 converting VPN addresses of entities within the VPNs to addresses of the external network.
2. The VPN gateway of claim 1, the NAT comprising a source and destination NAT, arranged such that entities in the external networks appear to one of the VPNs to  
10 have an address within an address range of the respective VPN.
3. The VPN gateway of claim 2, the entities in the external networks comprising at least one of: a call server, a SIP proxy, a web server, a storage server, a video server, a mail server, an H.323 gateway, a telephony client, or a telephony media  
15 gateway.
4. The VPN gateway of claim 1, the external network address used for each VPN entity being unique in the corresponding external network.
- 20 5. The VPN gateway of claim 1 having physical or logical interface ports, and being arranged to determine an identity of each of the VPNs based on which physical or logical interface port on the VPN gateway is used to couple the respective VPN.
6. The VPN gateway of claim 1, the VPNs each comprising a part of an Internet  
25 Protocol (IP) network.
7. The VPN gateway of claim 6 where the multiple VPNs use overlapping private IP addressing schemes.
- 30 8. The VPN gateway of claim 6, being arranged to provide protocol conversion.
9. The VPN gateway of claim 1, the VPNs being arranged to use at least one of ATM, Frame Relay, MPLS or IP.
- 35 10. The VPN gateway of claim 1 arranged to couple communication sessions having one end in one of the VPNs and another end in the external network, the sessions being controlled by a server.

11. The VPN gateway of claim 1, the communication sessions being one of data sessions, telephony calls, or video calls

5 12. The VPN gateway of claim 5, arranged to communicate to the external network entities the VPN identity associated with a given communication session.

10 13. A method of using a VPN gateway to interface two or more VPNs to one or more external networks, the external network or networks having different addressing schemes to those of the VPNs, the VPN gateway having a NAT, the method having the steps of passing information between any of the VPNs and the one or more external networks, and converting VPN addresses of entities within the VPNs to addresses of the external network.

15 14. A method of using a NAT shared by two or more VPNs to communicate between one of the VPNs and an entity of an external network or networks having different addressing schemes to those of the respective VPN, comprising the steps of receiving addresses and translating the addresses such that entities in the external networks appear to the respective VPN to have an address within an address range  
20 of the respective VPN.

15. A method of offering a virtual packet network service using the gateway of claim 1.

25 16. A node for a network, the node having a VPN gateway as set out in claim 1.

17. Software for carrying out the method of claim 13.

30 18. A sequence of signals to and from a VPN gateway for interfacing two or more VPNs to one or more external networks, the external network or networks having different addressing schemes to those of the VPNs, the VPN gateway having a NAT shared by the VPNs for converting VPN addresses of entities within the VPNs to addresses of the external network, the sequence comprising a signal from an entity of one of the VPNs, addressed to an entity in the external network which appears to  
35 have an address within the address range of the respective VPN, and a signal returned from the entity in the external network, and routed by the VPN gateway back to the entity in the respective VPN.

19. The sequence of signals of claim 18, further comprising a signal from the VPN gateway to the entity in the external network containing an identity of the respective VPN.